IN THE CLAIMS:

Status of Claims:

1.-106. (Canceled)

107. (New) A method of isolating muscle-derived progenitor cells (MDCs), comprising:

(a). plating a suspension of muscle cells from muscle tissue in a first collagen-coated container to which fibroblast cells adhere;

(b). re-plating non-adherent cells from step (a) in a second collagen-coated container when approximately 30-40% of the cells from the cell suspension have adhered to the first container;

(c). repeating step (b) at least once to enrich for an end population of viable, non-fibroblast, desmin-expressing cells in the second container; and

(d). isolating the MDCs as the end population of viable, non-fibroblast, desmin-expressing cells.

108. (New) The cells isolated according to the method of claim 107, the cells also expressing a cell marker selected from the group consisting of CD34, Bcl-2, Sca-1 and Flk-1, and the cells not expressing CD45 and c-kit markers.

109. (New) The method according to claim 107, wherein the muscle tissue of step (a) is skeletal muscle.

110. (New) The method according to claim 107, wherein step (b) is repeated at least five times.

111. (New) The method according to claim 107, wherein the isolating step occurs at 5 days following step (b).

112. (New) The method according to claim 107, wherein the isolating step occurs at 6 days following step (b).

113. (New) Isolated MDCs obtained by the method according to claim 107.

114. (New) A clonal population of MDCs obtained from the cells isolated according to claim 113.

115. (New) A physiologically acceptable composition comprising the MDCs isolated according to claim 107, and a carrier, excipient, or diluent.

116. (New) A method of augmenting or bulking smooth muscle tissue in a recipient, comprising: introducing the composition according to claim 115 into an area of smooth muscle tissue of the recipient in an amount sufficient to allow the MDCs in the composition to proliferate in and around the area of introduction so as to augment or bulk smooth muscle tissue mass.

117. (New) The method according to claim 116, wherein the composition is introduced into the recipient by injection or by intravenous delivery.

118. (New) The method according to claim 116, wherein the composition further comprises an absorbent or adherent carrier.

119. (New) The method according to claim 116, wherein the introducing step comprises introducing the composition into an area of esophageal muscle tissue.

120. (New) The method according to claim 116, wherein the introducing step comprises introducing the composition into an area of gastroesophageal muscle tissue.

121. (New) The method according to claim 116, wherein the introducing step comprises introducing the composition into an area of sphincter muscle tissue.

122. (New) The method according to claim 121, wherein the sphincter muscle tissue is anal sphincter muscle tissue.

123. (New) The method according to claim 116, wherein the introducing step comprises introducing the composition into an area of ureteral-bladder muscle tissue.

124. (New) The method according to claim 116, wherein the introducing step comprises introducing the composition into an area of bladder muscle tissue.

125. (New) The method according to claim 116, wherein the augmenting or bulking ameliorates or repairs a cosmetic or aesthetic defect.

126. (New) The method according to claim 125, wherein the cosmetic or aesthetic defect is a dermatological defect.

127. (New) The method according to claim 116, wherein the augmenting or bulking ameliorates or repairs a gastroesophageal reflux condition.

128. (New) The method according to claim 116, wherein the augmenting or bulking ameliorates or repairs a condition of the lumen.

129. (New) The method according to claim 116, wherein the augmenting or bulking ameliorates or repairs fecal incontinence.

130. (New) A method of augmenting or bulking skeletal muscle tissue in a recipient, comprising: introducing the composition according to claim 115 into an area of skeletal muscle tissue of the recipient in an amount sufficient to allow the MDCs in the composition to proliferate in and around the area of introduction, thereby resulting in augmenting or bulking skeletal muscle tissue mass.

131. (New) The method according to claim 130, wherein the composition is introduced into the recipient by injection or by intravenous delivery.

132. (New) The method according to claim 130, wherein the composition further comprises an absorbent or adherent carrier.

133. (New) The method according to claim 130, wherein the introducing step comprises introducing the composition into an area of esophageal muscle tissue.

134. (New) The method according to claim 130, wherein the introducing step comprises introducing the composition into an area of gastroesophageal muscle tissue.

135. (New) The method according to claim 130, wherein the introducing step comprises introducing the composition into an area of sphincter muscle tissue.

136. (New) The method according to claim 135, wherein the sphincter muscle tissue is anal sphincter muscle tissue.

137. (New) A method of treating tissue weakness or dysfunction in an area of smooth muscle tissue in a recipient, comprising: introducing the composition according to claim 115 into the area of smooth muscle tissue of the recipient in an amount sufficient to allow the MDCs in the composition to proliferate in and around the area of introduction, thereby resulting in ameliorating or repairing the weakness or dysfunction in the smooth muscle tissue.

138. (New) The method according to claim 137, wherein the composition is introduced into the recipient by injection or by intravenous delivery.

139. (New) The method according to claim 137, wherein the composition further comprises an absorbent or adherent carrier.

140. (New) The method according to claim 137, wherein the introducing step comprises introducing the composition into an area of esophageal muscle tissue.

141. (New) The method according to claim 137, wherein the introducing step comprises introducing the composition into an area of gastroesophageal muscle tissue.

142. (New) The method according to claim 137, wherein the introducing step comprises introducing the composition into an area of sphincter muscle tissue.

143. (New) The method according to claim 142, wherein the sphincter muscle tissue is anal sphincter muscle tissue.

144. (New) The method according to claim 137, wherein the introducing step comprises introducing the composition into an area of ureteral-bladder muscle tissue.

145. (New) The method according to claim 137, wherein the introducing step comprises introducing the composition into an area of bladder muscle tissue.

146. (New) The method according to claim 137, wherein the introducing step comprises introducing the composition into an area of heart muscle tissue.

147. (New) A method of treating tissue weakness or dysfunction in an area of skeletal muscle tissue in a recipient, comprising: introducing the composition according to claim 115 into the area of skeletal muscle tissue of the recipient in an amount sufficient to allow the MDCs in the composition to proliferate in and around the area of introduction, thereby resulting in ameliorating or repairing the weakness or dysfunction in the skeletal muscle tissue.

148. (New) The method according to claim 147, wherein the composition is introduced into the recipient by injection or by intravenous delivery.

149. (New) The method according to claim 147, wherein the composition further comprises an absorbent or adherent carrier.

150. (New) The method according to claim 147, wherein the introducing step comprises introducing the composition into an area of esophageal muscle tissue.

151. (New) The method according to claim 147, wherein the introducing step comprises introducing the composition into an area of gastroesophageal muscle tissue.

152. (New) The method according to claim 147, wherein the introducing step comprises introducing the composition into an area of sphincter muscle tissue.

153. (New) The method according to claim 152, wherein the sphincter muscle tissue is anal sphincter muscle tissue.